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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 295,431	04 20 1999	TETSUZO YOSHIMURA	6136 53461	7173

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EXAMINER

MOONEY, MICHAEL P

ART UNIT PAPER NUMBER

2877

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/295,431

Applicant(s)

YOSHIMURA ET AL.

Examiner

Michael P. Mooney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 19-40 and 49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 41-48 is/are rejected.
- 7) ☒ Claim(s) 2-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3 6) ☐ Other:

DETAILED ACTION

The Office acknowledges the election of claims 1-48 without traverse and the subsequent cancellation of claims 19-40 in response to prior Office action(s).

Thus claims 1-18 and 41-48 are pending.

Claim Rejections - 35 USC § 112

Claim 1 recites the limitation "said first optical coupler" in the second to last line.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Horimai (5323373).

Horimai does not expressly teach an electrooptic (EO) module comprising :

at least one substrate, wherein each substrate is selected from a group

consisting of substrates with passive polymer waveguides, substrates with electrooptic elements embedded in a polymer film, substrates having embedded electrical elements, and substrates having passive polymer waveguides and embedded electrical and electro-optic elements.

Horimai does, however, teach (at, i.e., fig. 3) an optical pickup device which includes laser diode and PIN photodiode components. It would have been obvious for one of ordinary skill in the art at the time the invention was made to teach an electrooptic module comprising:

at least one substrate, wherein each substrate is selected from a group

consisting of substrates with passive polymer waveguides, substrates with electrooptic elements embedded in a polymer film, substrates having embedded electrical elements, and substrates having passive polymer waveguides and embedded electrical and electro-optic elements because it is notoriously well known that a laser diode and PIN

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diode each have a substrate and layers of elements with electrical properties, i.e., electrical elements, of which at least some of said electrical elements are embedded.

Furthermore, Horimai does not expressly teach optical waveguide means in at least one of the substrates for propagating optical signals; optical signal source means in at least one of the substrates for generating optical signals in at least one of the substrates. It would have been obvious, however, for one of ordinary skill in the art at the time the invention was made to teach optical waveguide means in at least one of the substrates for propagating optical signals; optical signal source means in at least one of the substrates for generating optical signals in at least one of the substrates because it is notoriously well known (NWK) that a laser diode has optical waveguide means in at least one of the substrates for propagating optical signals; optical signal source means in at least one of the substrates for generating optical signals in at least one of the substrates.

Furthermore, the aforementioned PIN diode of Horimai figure 3, in accordance with the above statements, provides an optical detection means in at least one of the substrates for detecting optical signals.

Thus claim 41 is rejected.

Claims 42-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horimai (5323373) and further in view of Bischel et al. (6141465).

Horimai does not expressly teach an electrooptic module comprising :

at least one substrate, wherein each substrate is selected from a group consisting of substrates with passive polymer waveguides, substrates with electrooptic elements embedded in a polymer film, substrates having embedded electrical elements, and substrates having passive polymer waveguides and embedded electrical and electro-optic elements.

Horimai does, however, teach (at, i.e., fig. 3) an optical pickup device which includes laser diode and PIN photodiode components. It would have been obvious for one of ordinary skill in the art at the time the invention was made to teach an electrooptic module comprising :

at least one substrate, wherein each substrate is selected from a group consisting of substrates with passive polymer waveguides, substrates with electrooptic elements embedded in a polymer film, substrates having embedded electrical elements, and substrates having passive polymer waveguides and embedded electrical and electro-optic elements because it is notoriously well known that a laser diode and PIN diode each have a substrate and layers of elements with electrical properties, i.e., electrical elements, of which at least some of said electrical elements are embedded.

Furthermore, Horimai does not expressly teach optical waveguide (OWG) means in at least one of the substrates for propagating optical signals. It would have been obvious, however, for one of ordinary skill in the art at the time the invention was made to teach optical waveguide means in at least one of the substrates for propagating optical signals because it is notoriously well known (NWK) that a laser diode has optical waveguide means in at least one of the substrates for propagating optical signals.

Horimai does not expressly teach an optical switch means in at least one of the substrates for switching optical power or an optical signal in at least one of the substrates.

Bischel et al. teaches an optical switch means in at least one of the substrates for switching optical power or an optical signal in at least one of the substrates. (col. 63 line 22 to col. 64 line 60; fig. 40).

Horimai and Bischel et al. are combined by taking the technology of Horimai which teaches an EO module with substrate(s) for read/write applications in magneto-optical disks and/or Compact Discs (CDs) having embedded electrical elements and applying it to the optical switching for read/write applications in magneto-optical disks and/or Compact Discs (CDs) technology of Bischel et al. to obtain the instant invention. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make such a combination for the purpose of increasing optical coupling efficiency.

Thus claim 45 is rejected.

Bischel et al. teaches stack OWG coupling means to communicate optical signals between the plurality of substrates (col. 73 line 40 to col. 76 line 65; col. 63 line 22 to col. 64 line 60; fig. 40). Thus claims 42, 46 are rejected.

Claim 47 would have been obvious because it is NWK for EO module with substrate(s) for read/write applications in magneto-optical disks and/or Compact Discs (CDs) to have at least one electrical board/IC and via means for making electrical connections. Thus claims 43, 47 are rejected.

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Bischel et al. teaches sol-gel coupling means for coupling optical energy to at least one waveguide of a substrate containing waveguides. (col. 8 lines 60-67; col. 73 line 40 to col. 76 line 65; col. 63 line 22 to col. 64 line 60; figs. 40-81). Furthermore, it is NWK to use sol-gels in such applications as flexible coupling means. Thus claims 44, 48 are rejected.

Allowable Subject Matter

Claims 2-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the corrected (see above) base claim and any intervening claims. It is further noted that claim 1 would be allowable upon the correction of the antecedent basis problem.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Mooney whose telephone number is 703-308-6125. The examiner can normally be reached during weekdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956. An alternative useful number for status inquiries is 703-306-3329.


Michael P. Mooney
Examiner
Art Unit 2877


Frank G. Font
Supervisory Patent Examiner
Art Unit 2877

FGF/mpm
11/15/02